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Recommended Citation

Allal-Cherif, Oihab, "Highlight Electric Case Study: How To Conceive, Develop And Implement A B2B Information System?" (2009).
MCIS 2009 Proceedings. 22.
<http://aisel.aisnet.org/mcis2009/22>

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HIGHLIGHT ELECTRIC CASE STUDY: HOW TO CONCEIVE, DEVELOP AND IMPLEMENT A B2B INFORMATION SYSTEM?

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Abstract

Highlight Electric Industries is a French multinational whose core business involves the design and assembly of industrial equipment. The firm's General Management has noticed that productivity reserves still exist within its purchasing management function. External growth had enhanced this potential throughout Highlight Electric's different expansion phases. The company has therefore decided to invest in an e-sourcing project. This case study describes this project which has been inspired from a real one and shows how an electronic marketplace has been designed to reach all the objectives. This case study takes four hours to be solved by post graduate management students. They may be organized in groups of 4 and the instructor can go from one group to another to help them progress, according to their capacities, in answering the 10 questions. A PowerPoint presentation and a teaching note is provided to help in the animation of the case which has been tested and optimized in three different accredited management schools before its publication. It's ideal to illustrate purchasing management evolution and information systems management. It also depicts strategic, organizational, financial and human resources issues.

Keywords: *purchasing department, information system project, electronic marketplace,*

1 CONTEXT OF THE PURCHASING INFORMATION SYSTEM PROJECT

1.1 Presentation of the company Highlight Electric

Highlight Electric Industries is a French multinational whose core business involves the design and assembly of industrial equipment. The machinery and precision tools that it produces are mainly destined for the automobile, aeronautics and electronics sectors. Some products are also sold to private parties in big specialist stores. Highlight Electric's corporate culture is based on **innovation**. The ability to invent and to foresee the future has been a key competency for the company's managers for nearly a century. Highlight Electric's history is marked by a series of discoveries and prestigious patents that have allowed it to build up a solid reputation as a high-tech firm. It started off pursuing a path of organic growth involving the creation of new technologies by its Research and Development department, whose investment levels have always been twice as high as the sectorial average. Highlight Electric's market watch capabilities have always allowed it to quickly detect any technological innovations that might inject new functionalities into its equipment and improve operability. In turn, this paved the way for external growth based on mergers and acquisitions.

With operations in 80 countries, the firm and its 45,000 employees is market leader in many of the sectors where it has products. To maintain this position, Highlight Electric battles with two rivals of more or less similar size. Both would like to grab some of the **€2 billion in revenues** that Highlight Electric made in 2009, against operating profits of €200 million. 60% of the company's revenues come from sales of industrial equipment, 30% from materials trade with private customers and 10% from service activities. Half of all revenues come from Europe, 30% from North America and 20% from the rest of the world. The geographical distribution of Highlight Electric's workforce is proportional to the breakdown of its revenues. Highlight Electric is a decentralised organization that operates in a number of specific local markets. The products that it offers can either be exactly the same from one continent to another or completely different. As a result, the company's **supply constraints** vary strongly, depending on the location in question. At the same time, the **quality** of the products and services that Highlight Electric

offers **must be the same** irrespective of where they are being sold. A host of internal and external **certification processes** help guarantee that the company continues to perform at the demanding levels that explain its success. For its information systems, Highlight Electric uses: SAP to manage orders, production, stocks, accounting/finance and human resources and databases of varying ages, which interface with SAP and feature their own nomenclatures, plans and procedures.

1.2 The role of purchasing at Highlight Electric

For the past 20 years, Highlight Electric's purchasing activity has reported directly to General Management. This shows how strategically the company considers the function. Most of the components that it uses in its products are manufactured by suppliers who have been approved in recognition of their know-how and ability to work to specification requirements. For several decades now, before Highlight Electric selects a supplier, the latter will undergo an in-depth financial analysis involving an evaluation of its activities, balance sheets and profit and loss statements for three years previous. Existing suppliers undergo a similar financial health check once a year, supplemented by bi-annual industrial and technical analyses. There are three categories of suppliers at Highlight Electric. Long-term suppliers have worked with Highlight Electric for 20 or 30 years and sometimes even longer. These are real partners who have played a crucial role in the company's success and developed very similar kinds of know-how and corporate cultures. They account for around one-third of all suppliers. Suppliers from the company's "ISO certification" period, had been chosen for their ability to respond to a whole set of new challenges that had arisen during the 1980s and 1990s. What brought Highlight Electric closer to these firms, characterised by their extremely rigorous working methods, was great ambition and many shared values ("total quality", "zero defects"). New technology suppliers help Highlight Electric to maintain supremacy in its markets and keep a step ahead of the competition by regularly coming out with new products. For a particular product category like components or materials, Highlight Electric always relies on several suppliers. This "bi-sourcing" or "tri-sourcing" system guarantees supply security and gives Highlight Electric a chance to compare suppliers' performance with one another, while creating a form of geographic proximity that helps to resolve the kinds of problems caused by differences in standards, language or culture. Most suppliers (and therefore the information relating to them) are not centralised but managed independently by Highlight Electric's local subsidiaries. This means that it can be difficult to know, even inside the company, whether a particular supplier has in fact been accredited and if so, where to find information on it.

Procurement expenditures amount to 60% of total sales, or €1.2 billion. Over the past 20 years, the connections have become ever closer between Highlight Electric's General Management and its Purchasing Department, which only employs 350 persons, or less than 1% of the total staff - a relatively small figure in comparison with sectors like the automobile where the proportion is around 6 to 7%. In principle, buyers field demands from the different departments via SAP and either validate them or not. In case of a positive reception, they will organise a tender bid process with several suppliers or simply order something from a catalogue if the need corresponds to a deal that has already been negotiated. It can happen that the purchases are made by another area like the Marketing, Production or Maintenance departments. These atypical purchases do not necessarily come from a certified supplier nor do they have as much of an effect on products' cost and quality as a tender process would. In addition, buyers are constantly being solicited by the Research and Development, Accounting or Logistics departments and spend a lot of time on activities that are not specific to their function. Nor do they have their own specific information system. They all use SAP for internal purposes but have no dedicated communications system for exchanging information with suppliers. The Intranet does however enable exchanges between buyers working in one and the same market or geographic zone. Purchases are managed in very specific ways depending on the category involved: **Global purchases (G)** for which the supplier is the same in every country where Highlight Electric has a subsidiary; **Continental purchases (C)** where each continental zone (the Americas, Europe in the broadest sense of the term or Asia) has its own suppliers and endures specific constraints relating to quality (technical specifications), costs and delays, along with a number of geographic constraints (culture, standards, etc.); **Local**

purchases (L) where needs are specific to each country, implying an autonomous and specialised management by the subsidiary in question. In addition, purchases can be divided into four categories called “markets”, with each representing around one-quarter of total purchasing volumes: **Raw material purchases** (M1): plastics (G), iron (G), glass (C), paper and cardboard (C), cast iron (L) or energy (L); **Component purchases** (M2): electronics like printed circuits (C), electrical parts (C) or mechanical parts (L); **Material and equipment purchases** (M3): machinery (G), working clothes (C) or tools (L); **Non-manufacturing-related purchases** (M4): IT systems (G), telecommunications (C), office supplies (C), upkeep (L), premises surveillance (L) maintenance (L). Each of these markets is associated with a Market Director (MD) and accounts for around one-quarter of total purchasing volumes or €300 million. The four markets are comprised, respectively, of 12 segments, meaning that there are a total of 48, with one Segment Manager (SR) being allocated to each.

2 DESCRIPTION OF THE “E-SOURCING PROJECT”

Highlight Electric's General Management has noticed that productivity reserves still exist within its purchasing management function. External growth had enhanced this potential throughout Highlight Electric's different expansion phases. The company has therefore decided to invest in an e-sourcing project for which Mr. Henry Achette (H. A.) has been appointed manager. H.A. possesses two sets of skill, since he is both a trained engineer and a purchasing manager. He has also been a member from the very outset of the “quality circles” that Highlight Electric set up as part of the internal certification campaign that it undertook in the early 1980s. His knowledge of the company means that he is familiar with all of the processes affected by the purchasing function's restructuring and optimisation initiatives. One of H. A.'s missions is to provide analysis to General Management which is hesitating whether to: develop and implement an internal information system that is specific to the business done by the Purchasing Department, acquire a license for an existing tool like an e-procurement platform, acquire a contractor and appropriate the tools that it markets, co-develop a tool in collaboration with a contractor who has a compatible vision.

Question 1: *What opportunities and risks have been generated by Highlight Electric's internal development of an information system benefiting its buyers? Which option do you think would be the easiest and quickest to implement? Why?*

The overall objective is to improve purchasing performance and advance from a merely operational outlook to encompass more tactical and even strategic dimensions. The tool being implemented will become the vehicle thanks to which Highlight Electric should be able to build up business intelligence capabilities specific to its purchasing needs. H. A. has identified the **main challenges** raised by this project and classified them into five categories:

2.1 Category 1: Purchasing function and buyers' mission

- O1A (Objective of Category 1, A): Encourage job enrichment for all buyers and segment or marketing managers. The idea here is that buyers will be able to regain control over the purchasing function if they are freed from certain administrative tasks (management of contracts, invoices, legal disputes, deliveries, etc.) and technical responsibilities (definition of quality standards, nomenclature design, development, etc.). This will allow them to undertake high value-added actions over the long term and to better plan any future activities, since they will no longer be as tied up with daily routines or sudden emergencies;
- O1B: Follow general trends in the “purchasing” business, which nowadays involves a lot more than cost killing. Here the aim is to seek a better balance between costs, quality and delays, and to detect opportunities for innovation and productivity improvements;

Question 2: *What does a buyer's role generally entail? With whom does s/he work? In what sense do buyers fulfil an essential and strategic function at Highlight Electric?*

2.2 Category 2: Performance measurement and competitiveness via synergies

- O2A: One-third of all suppliers are reassessed every year, meaning that all suppliers are subjected to an economic re-evaluation once every three years. This measure guarantees that suppliers do not view their certification as a foregone conclusion but as a temporary status that needs to be reconfirmed;
- O2B: Develop an ability to measure suppliers' technological, logistical or administrative performance in real-time. Suppliers must become true partners to the company, which refuses any one-shot deals. As such, they must be involved in product quality and functionality improvement processes and in all other projects conducted by Highlight Electric's Purchasing Department;
- O2C: Increase the internal productivity of purchases by raising this within three years from an average-to-average annual rate of 3% in 2005 to 6%, thereby earning €50 million per annum.

Question 3: Who might be in a position to measure purchasing-related productivity gains? Who might want to appropriate this productivity?

- O2D: Establish precise quantitative and qualitative objectives on buyers' behalf, to facilitate the measurement of any variability in their performance.

Question 4: In your opinion, which criteria and indicators are most appropriate for measuring a buyer's performance?

2.3 Category 3: Standardisation of methods or processes and globalisation of suppliers

- O3A: Increase the number of suppliers under framework contract from 40% to 60% of all company-wide purchases, so as to enhance Highlight Electric's bargaining position and strengthen its negotiating stance. Higher volumes with a given supplier will automatically lead to lower transaction costs. At Highlight Electric, this policy is called the globalisation of purchasing volumes;
- O3B: Globalise supplier-related needs and actions of Highlight Electric's different subsidiaries;
- O3C: Set up standardised consultation schedules for each market enabling buyers to compare the offers they field from suppliers from different countries;
- O3D: Inject greater transparency into the tender bid and decision-making processes, both internally (possibility for buyers to converse directly with one another) and externally (information transmitted via the system that is being used by the selected supplier(s) but also by those suppliers who were not selected, after justifying their non-selection).

Question 5: What risks are associated with the globalisation of purchasing volumes? Which limits should be established and which indicators observed?

2.4 Category 4: Reduction in supply delays and transaction costs

- O4A: Shorten the lifespan of a tender bid process by reducing the amount of time that suppliers have to make a bid, thereby increasing Highlight Electric's control over the project's time-to-market (the time needed to develop a new product) and the industrial time-to-market (the time lag between the call for tender and when Highlight Electric's customers receive the supplies);
- O4B: Be in a position to organise provisional tender processes lasting between a few months and two years, thereby improving their management;
- O4C: Analyse suppliers' production costs and support any optimisation efforts.

Question 6: How might a systematic utilisation of the SourcingParts Marketplace that Highlight Electric has chosen help to reduce time-to-market?

2.5 Category 5: Internal and external communications, benchmarking and knowledge management

- O5A: Implement global benchmarking of best practices for each of the purchasing segments;
- O5B: Set up an Electronic Documents Manager and develop a Knowledge Management policy so that knowledge depends less on individuals and more on the corporate system and its constituent processes;
- O5C: Enable communications with suppliers via a single channel, thus a better management and archiving of documents, as well as shared knowledge between Highlight Electric and suppliers.

Question 7: What is the best way to involve purchasing teams and suppliers who come from different markets and cultures?

2.6 Simplified specifications

The tool is expected to perform as follows:

- Guaranteed access 24/7;
- Possibility of viewing all pages in 10 languages;
- Assistance in case there are any questions, specific needs or malfunctions;
- Server capable of managing the compatibilities between Highlight Electric's different information systems, in particular SAP, so that SAP data can be transferred towards the platform and vice versa;
- Tool that is intuitive, user-friendly and can be developed;
- Rapid appropriation (one day of training);

Expectations of the purchasing team are as follows:

- Share a common database with authorised suppliers when transmitting any calls for tender;
- Possibility of an external database to supplement an existing panel;
- Simplification of the tender bid and transmission processes;
- Simplified management of responses;
- Assistance with negotiations;
- Accumulation of shared experiences within the Purchasing function plus greater transparency;
- Links to other Purchasing Department information systems
- 6-month return on investment.

Once a global corporate purchasing policy had been defined, the year 2005 saw the launch of a series of working groups and tests involving several dozen marketplaces. All possible options were considered at first, with any and all potential contractors being contacted so that a selection could be made. After applying a “funnel” system, Highlight Electric then chose, based on several hundred ranked criteria of a functional, technical and strategic nature, a short list of 10 platforms and ultimately two final competitors: StoneCost and SourcingParts. 2006 saw project manager Henry Achette and Highlight Electric's Purchasing Department conduct beta tests for each of these two platforms, with the participation of 50 buyers. Following these tests, SourcingParts was chosen to become Highlight Electric's global marketplace. Alongside the choice of a ‘Marketplace’ and then all throughout its deployment, an internal marketing operation was conducted to get purchasing-related actors involved in the project as early as possible. In other words, the desire to find a contractor with a vision as compatible as possible with the one held by Highlight Electric's General Management was accompanied by an attempt to get buyers to adhere to and cooperate with this approach. It was also necessary to find

a solution that could satisfy very strict profitability criteria (six month breakeven) and become operational very quickly (three years).

Question 8: *What arguments can be used with the Corporate Management to justify investing in this tool?*

3 PRESENTATION OF SOURCINGPARTS

3.1 A new business model for a new type of marketplace

SourcingParts is a limited liability Swiss company founded in 2006. It has operations in Switzerland, France, Italy, USA, the Czech Republic, China, Japan and India. Its customers are large industrial groups who mainly come from Europe. More than 1,000 buyers use this platform for several hours a day as a working tool and as a way to improve performance. The tool that SourcingParts offers functions in an ASP (Application Contractor) mode. The data is externalised on a global server featuring a rights-based access. The SourcingParts platform helps to manage the:

- Control and transparency of the tender-related Request For Quotation (RFQ) process;
- Supplier globalisation;
- Supplier sourcing;
- Complete management of calls for tender, from their design to the awarding of contracts to the reception and tracking of orders;
- Transparency of roles and transactions;
- Sharing of best practices;
- Easier access to historical data;
- Control and sharing of suppliers: definition of market segment shortlists and blacklists;
- Online and off-line tender processes;
- Auctions (reverse or otherwise);
- Awarding of contracts;
- Reporting: measurements of gains, activities, etc.
- Integration with Highlight Electric's other information systems, particularly SAP;
- Transparency, based on real-time sharing of current files and supplier monitoring.

3.2 Platform deployment

After consulting H.A, General Management has appointed a Marketplace Deployment Manager. The sole responsibility of this individual is to deploy the tool. This will involve: training, choosing and organising key users, creating licenses, defining access rights, implementing a corporate hotline, participating in and monitoring tool developments that are specific to Highlight Electric, tool-related communications, internally with users and externally with suppliers. For Highlight Electric, the stages involved in deploying SourcingParts are as follows:

Step 1: Define a team of 15 European testing specialists to work on the platform and accumulate information, lasting for a period of four months, from April 2006 to July 2006. These professionals will start to design specifications schedules and compile a supplier address book to be integrated into the Marketplace in line with a very strict recording procedure.

Step 2: Define a team of 50 key users in every country where Highlight Electric has a subsidiary. These individuals will study all of SourcingParts' functionalities and any limitations for a period of four months, from August 2006 to December 2006. They will support the tool locally and supervise any training.

Step 3: Platform deployed in Europe in 2007/2008;

Step 4: Platform deployed worldwide in 2009/2010.

The deployment relates to both corporate and local functions and tools. It requires a definition of global processes and a customisation of local procedures. Several possibilities are considered for shifting Highlight Electric's Purchasing function towards the SourcingParts platform: a Big Bang strategy in which all actors transition towards the tool in one fell swoop, a progressive shift by each geographic sector involving, for instance, a Big Bang on one continent at a time, a progressive shift involving country-by-country and market-by-market transitions, a market-by-market shift with a distinction being made between different purchasing categories (with the least strategic going first, for example). The decision was made to deploy the platform very slowly, on a country-by-country and market-by-market basis. It was in France - where Highlight Electric's General Management and Purchasing Department are located - and in the M2 market segment (the most critical one in terms of number of tender processes and product technicity) that deployment began in 2007. The goal was to use France as a zone for optimising the tool by stabilising its settings and integrating the new information system. SourcingParts was subsequently dispatched to the rest of Europe, still in the M2 market at first before being applied to the M3 and M4 markets, first in France and then in other European countries over the course of 2008. It was only in 2009 that the American and Asia-Pacific zones first made the transition, shifting progressively all through 2010. M1 market purchases are only planned to be transferred to the platform in early 2010, with initial testing again taking place in France. Training matched this step-by-step deployment process, with seminars being organised for all key users every two months, alongside purchasing meetings that were organised for each market and country and which focused systematically on the tool's optimisation and appropriation. The efficient deployment of the Marketplace and its long-term survival within Highlight Electric were as important a focus for the company as the deployment preparation itself. All buyers were interviewed and received support for the transition of their purchasing portfolios.

Question 9: *Sketch the organisation of the tool's deployment by outlining the relationships between the different actors: Project Manager, Deployment Manager, key users, etc.*

Plans were also made at the corporate management control level to acquire an integrated decisional platform (SAS or another type) to help Highlight Electric's General Management pilot the project.

Question 10: *In what way will a systematic utilisation of SourcingParts facilitate the implementation of an analytical system of this sort?*

4 ELEMENTS OF SOLUTION

Answer 1:

The first option is to "develop and implement an internal information system that is specific to the business done by the Purchasing Department". This choice would require considerable financial and human resources but ultimately do little more than re-create functionalities that to a large extent already exist within the available tools. Furthermore, developing IT software is not really Highlight Electric's core business. If the company were to develop this tool in its entirety, the task would have to be subcontracted to experts. But even in this case, it would cost too much and take too long. The second option is "to acquire a license for an existing tool like an e-procurement platform". This is the most common solution, since it offers guaranteed maintenance, a hotline and regular updates. However, because of its purchasing policy Highlight Electric has some very specific needs. This solution does not fulfil the "tailor-made" criteria established by General Management, and which the Project Manager must satisfy. Even after accounting for the possibility of changing the settings for different marketplaces, none would satisfy most of the functional specifications. The third option is to "acquire a

contractor and appropriate the tools that it markets". This option is excluded since Highlight Electric is not an expert in information systems and does not want to have to manage the system that its buyers will be using. Quite the contrary, General Management insists that Highlight Electric should only work within its core business and outsource the rest. The final option - and the one that was chosen - is to "co-develop a tool in collaboration with a contractor who has a compatible vision". This contractor – SourcingParts - actually does see things similarly to Highlight Electric, and some of its functionalities correspond perfectly to the needs expressed. Other functionalities can be reoriented to satisfy specifications. A partnership has been negotiated whereby SourcingParts will develop, exclusively on Highlight Electric's behalf, new functionalities responding to all of the needs expressed, thereby combining Highlight Electric's funding capabilities with SourcingParts' system expertise.

Answer 2:

With companies having tended since the 1990s to refocus on their core businesses, interactions with outside contractors have become increasingly intense, leading to greater volumes of subcontracting and external sourcing. Shorter product lifecycles and accelerated technological innovation mean that buyers' roles have become more influential and strategic than ever, since they must keep up with all of these changes and even foresee them to ensure that their company stays ahead of the competition. Buyers act as "relay switches" between a company and its market. Their main mission is to create a connection between the company's expressed need and what is on offer. They are also in a position to make technological suggestions. Buyers no longer focus primarily on cost killing (which in its more radical forms can endanger their suppliers' survival) but on exploring the market to find better suppliers with whom a win-win partnership might be built. It is by finding new solutions, technologies and processes - in other words, by working on long-term goals - that costs can be significantly reduced and competitive advantages generated. A buyer must possess competencies that are technical (relating to the company's core businesses), legal and commercial (bargaining skills are crucial) plus the ability to relate well to people and an openness to very different cultures and working methods (knowing foreign languages and being familiar with partners' vision makes it easier to approach them). Above and beyond buyers' own competencies, they must be able to make use of the aptitudes possessed by the persons surrounding them. In the case of Highlight Electric, this is a multinational where technology plays a major role and involves considerable purchasing volumes. The company employs relatively few buyers in terms of the volumes it handles. Providing these buyers with certain tools will help them to fulfil their watch and monitoring functions while developing fruitful collaborations and avoiding the need to field internally expressed needs on a last-minute basis.

Answer 3:

The Purchasing Department's vocation is to produce its own analyses within a framework that it can control itself, and in the context of a policy whose purpose is to incentivise and motivate buyers. At Highlight Electric, the function's impact is measured by the sourcing it does on behalf of the group production units. This involves comparing the previous year's purchasing costs with the costs incurred during the current year. The delta for a constant volume of purchases is calculated by: $(\text{Volume year } N-1 * \text{Up Purchases year } N-1) - (\text{Volume year } N-1 * \text{Up Current purchases})$ with Up = Unitary price. The solution represents the value of the "gains" that a production unit has earned with a particular component. The sum of all gains and losses represents productivity within the value chain. The link between buyers' productivity and global performance is hard to calculate, however. "Gains" measured in this way do not have immediate accounting effects, due to the time lag between the purchases per se and their consumption during the production process. At Highlight Electric like elsewhere, buyers are often surprised at the way their performance ends up diluted in the systems used by the Management Control team, which clearly has a key role to play in analysing and attributing performance within the company. Note that Management Control's practice of standard costing tends to neutralise short-term purchasing price variations. At the same time, the appropriation of purchasing productivity is clearly a delicate matter. Within the company, falling purchasing costs create an opportunity to increase the value added. Because of competitive pressures, however, these gains must be "passed on" to

customers. This raises the question of how the value added is to be shared throughout the supply chain. In turn, this ties into the aforementioned concept of an inter-organizational approach that tries to encompass suppliers' suppliers as well as customers' customers.

Answer 4:

Unlike commercial and marketing functions where performance criteria and indicators have been defined and become part of the remuneration system, large groups' purchasing departments have not necessarily established these kinds of systems. Only certain sections working in large distribution chains have the ability to measure the impact of buyers' activities on the savings that a company makes and on its buyers' remuneration. At Highlight Electric, thanks to the implementation of the Marketplace, it is possible to envisage an implementation of performance indicators for one or several buyers. Depending on group objectives, the following benchmarks might be used, for example: percentage of articles or suppliers being reviewed, globalisation rate, savings obtained, average amount of time it takes to award contracts, adherence to the purchasing policy applied in a particular segment, etc. A weighting system might be implemented to convert unadjusted findings into performances for different activities. Such indicators would enable greater responsiveness in those case when, during the course of the fiscal year, segment purchasing strategies are identified, go off course or actually reverse. Measuring this kind of performance should also enable the Purchasing Department to integrate "bonus objectives" into its buyer or purchasing group remuneration scheme.

Answer 5:

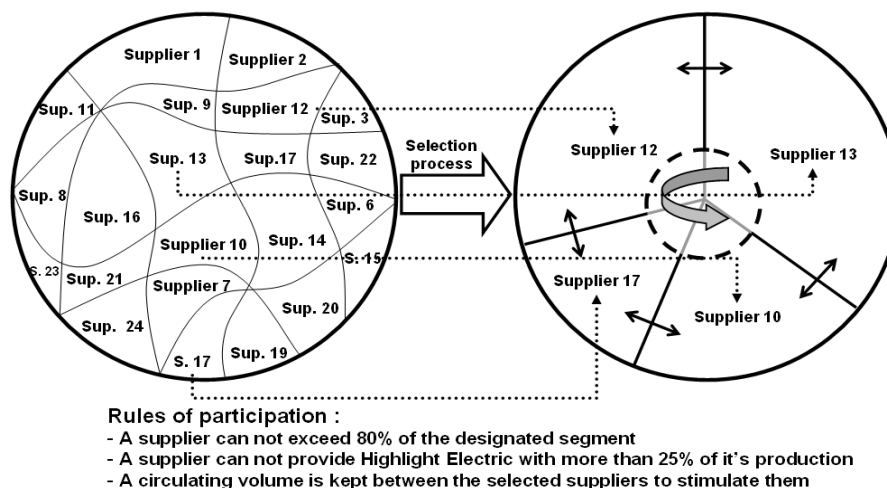


Figure 1 – Globalisation by segment at Highlight Electric

These objectives feature definite advantages but they are offset by certain globalisation risks: some financial risk subsists, despite the ongoing monitoring of suppliers. The impact of a supplier going bankrupt would be greater after globalisation than it was before. Industrial risks like progressive obsolescence can always arise when suppliers modify their production apparatus, for instance, because they might also change their target customers without informing Highlight Electric first. A rent-related risk exists due to some suppliers' tendency to "rest on their laurels". This could lead to a lack of innovation in comparison with one's rivals, and to a progressive loss of competitiveness. There could be an opportunity risk consisting of not identifying an emerging supplier who might otherwise have been able to increase Highlight Electric's level of productivity. Highlight Electric is aware of these risks and tries to avoid them by reviewing all suppliers every three years and changing the list if an opportunity arises.

Answer 6:

With time-to-market (ttm) defined as the delay between a request and the supplier's response, using SourcingParts systematically will reduce "ttm-purchasing" by raising administrative productivity:

facilitating tender bid processes, benchmarking and improved positioning in the technological market, getting components contracts awarded more quickly, potential for proactive intervention by suppliers, reduced cycle for application of new rates; etc. Since ttm also refers to the delay between the birth of a new product idea and its arrival in the market, higher administrative productivity can also shorten the project-ttm, which represents the sum total of each section's ttm. The same applies to the industrial-ttm, representing the delay between an order being given and the delivery being made to the customer.

Answer 7:

The success of an e-sourcing project necessarily involves its acceptance by buyers and management, on one hand, and suppliers, on the other. Training is a priority. Buyers and assistants should receive all necessary information concerning the project, its finality for the purchasing function but also with respect to the tool itself, the reasons it was chosen, the advantages it offers and its utilisation. Change management has been envisioned as a three-stage process involving the preparation, management and consolidation of change. This process is based on three levers: communications; training; and support. It targets all change actors: buyers and assistants; and management and suppliers. More specifically, it should involve the removal of:

- Technical obstacles, i.e. facilitating Internet connections, easier access to computerised plans while avoiding files that are too heavy to upload.
- User-related obstacles: facilitating the management of supplier lists and consultation schedules. Note some people's reluctance to adopt new technologies. A number of buyers and assistants do not see how they stand to gain from the new technologies and will drag their feet. Transparency, which is depicted as an advantage, can therefore be perceived in a negative manner. The different actors may sense that they are being spied upon in the workplace. Time needs to be allocated to an internal marketing campaign aimed at surmounting these obstacles.
- Socio-cultural barriers. Specific communications must be implemented by taking people's cultures and languages into account. Since English is the international language, anyone who is not French should be spoken to in English. It remains that even if some people, Italians for example, speak English, they will never have the same understanding or finesse of expression as they would in their own language. Communications and information can be affected when everyone speaks mediocre English.

By making it possible to organise communications at the group level – and where this is comprised of individuals who are geographically dispersed - the Internet enables cooperative practices that can have considerable social impact but whose development is sometimes hobbled by the resistance of users who are reluctant to share their expertise. Nowadays, young people are the people driving new technologies, whereas a company's decision-makers (who are usually 40 to 50 years old) may feel more mistrustful - a feeling sparked by everything associated with a new tool, like the need to update one's knowledge levels, receive new training and even the risk of losing one's job. SourcingParts' adoption is predicated on acceptance that this digital tool is bound to change the company deeply and have a significant impact on its organisation. The main obstacles encountered with suppliers can be categorised as follows: the actual tool being used, its assumed cost (although in reality, Highlight Electric will pay for this), lack of understanding, fears and mistrust, risk that the direct relationships with the buyers might break down. All of these obstacles, which can generally be identified very quickly, must be dealt with via specific action plans to ensure that people adhere to the approach. Such plans mainly relate to communications or information. An external communications plan (aimed at suppliers) must be established. The Project Manager will have to define it, validate its core aspects and implement a system for verifying the actions that will be undertaken in reaction to any malfunctions that might be identified. It is indispensable that a plan be developed, i.e. that there be a formalised decision-making process highlighting its main principles and general narrative. The objective is to identify a communications system that can culminate in a piloting tool reflecting the communications actions that have been selected and programmed. The communications plan will include two main sections. The first consists of

analysing the status quo, i.e. inventorying the implementation project for a particular Marketplace, any communications relating to this project, the behaviour and attitudes of the tool's users or future users plus any communications issued in the specialist press. The second consists of developing an adapted communications strategy by determining the tool's positioning, the objectives of the communication, the targets, creative strategy, and the choice and planning of resources.

Inasmuch as the project deployment phase lasts for several years and involves several technologies, the suppliers are not going to be all trained at the same time. The tool is also going to evolve, meaning that it will become all the harder to adapt and appropriate because not everyone will understand it, or at least not completely. It may be impossible to provide all users with continuous training but there is a definite need to keep people informed about the project status and any changes in the tool itself. To maintain contact, a determination must be made of which messages should be communicated regarding the tool or the project. These actions are to be conducted at regular intervals during the communications plan development phase. One important point in the communications plan will be to identify and communicate the benefits that the suppliers will derive from using this tool, notably: communications that are quicker and more immediate, management of any calls for tender and a clearer vision of their positioning, structuring and archiving of any responses and a tool capable of fine-tuning any bids received. Lastly, the tool's shared customer database should enable "upstream" marketing. Moreover, thanks to the project function, it will be possible to integrate suppliers into Highlight Electric's projects at an earlier, more upstream phase. The company organises - for each country, region or even technology - training seminars offering knowledge about how to use the Marketplace, answering any questions and making the tool seem less foreign. Highlight Electric will have to motivate its suppliers to take part in these events, which will also provide an opportunity to explain the group's purchasing policy.

Answer 8:

Today there are no indicators capable of measuring whether or not "new technologies" actually improve productivity. As such, it is very difficult to assess the "return on investment" when installing this type of tool. Nevertheless, the Purchasing Department, which reports to the Finance Department, wants the Project Manager to set up a system for calculating the investment's profitability. Towards this end, this person will rely on the following indicators, which are generally used when decisions are being made about a technological kind of investment: ROI (Return On Investment), or how long it takes to recover the initial outlay; TCO (Total Cost of Ownership), an indicator developed by the Gartner Group to translate the relationship between the equipment's direct price, performance and operational cost; TEI (Total Economic Impact). Developed by Forrester, this compares the different solutions' returns, relative flexibility, capacity to evolve and risks. In the present case study, the argument has been reinforced by the fact that without this sort of tool, the strategic plan would have remained inapplicable - unless the company accepted a strong increase in the function's fixed costs.

Answer 9:

From a General Management perspective, two major constraints exist: ensuring that the Purchasing Department maintains a lean structure; and getting middle managers to accept a delegation of responsibilities. The schema that was highly chosen can be found in Figure 2.

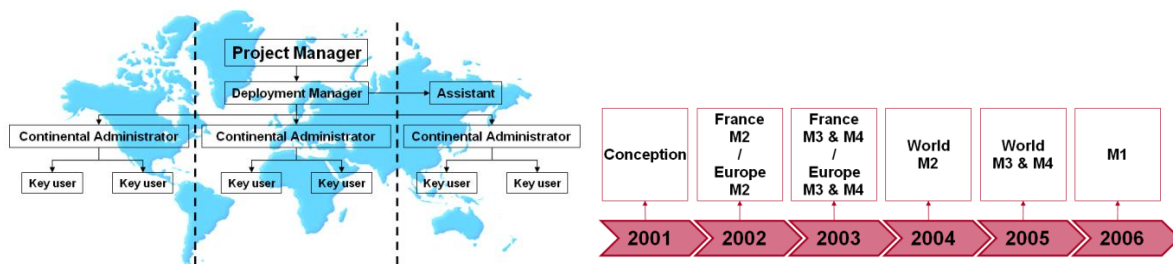


Figure 2 – Deploying the electronic marketplace all around the world

Answer 10:

An analytical SRM will work with all kinds of databases – that is, once they have been developed. This is clearly the case at Highlight Electric, where a complete SAP has structured the operational data and been applied in all group units. In addition, the systematic recording of all transactions in SourcingParts is equivalent to having a comprehensive transactional database (with the objective of 45% having been reached, it should be finalised by 2007). This will accelerate the implementation of analytical tools. In this context, the SAS Procurement Scorecard[®] component offers a useful summative analysis, enabling notably: a definition and formalisation of the group's purchasing strategy, a measurement of key indicators (i.e. as per the SCOR model), in line with the strategic programme, both from an internal organisational and an external supplier perspective, to implement a monitoring system so that alarms will go off in case there are any variances from the objectives defined.

5 TEACHING NOTES

The teaching objectives of this case study are:

- to present an information system project in every angle,
- to illustrate the complexity of an information system project,
- to explain why the Purchasing Function is strategic,
- to present human, organizational and technological issues of this project,
- to see how information technology can help a purchasing department to reach its objectives,
- to show the necessity of change management in an information system project,
- to help students identify opportunities and risks of this type of project,
- to describe the functionalities of electronic marketplaces according to their type,
- to understand relations between the Purchasing Function and other functions of the firm.

The target audience is students from:

- Business and management schools: Bachelor of Commerce, Master in Management, Master in International Business, Executive Education...
- Master in Business Administration,
- Master in purchasing management or logistics or information systems management.

This case study is designed to be done in working groups of 3 or 4 students. It can be solved in approximately 5 hours, with the help of the instructor who will have to see one group after the other and to advise them on the course to follow. No specific knowledge is required from the students but they need good grounding in management. The questions can be answered one by one as they appear in the case. Their number and their diversity enable flexibility and the instructor can only select some of them to be answered and/or evaluated. A PowerPoint presentation is provided for the correction, but it's preferable if the groups who have elaborated the best solutions can present them.

This case study has been tested in three different Business Schools, in two different languages and with various types of students. The questions may seem to open for some students and the timing to short. According to their knowledge, the instructor should present the case and insist on the respect of a strict planning and the need of specific and synthetic answers. Instead of writing a report, the groups should formalize a PowerPoint presentation. It's difficult to manage more than 10 groups: if the total number of students is higher than 40, two sessions should be organized. The students are often surprised by the complexity of the situations but they become enthusiasts to be considered as consultants and to have the opportunity to put their teachings into practice.

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